

laboratory at Charleston; most did not cleave, only a few developed to the 4-cell stage or to subsequent stages. The three snails in question were found during low tide at about the plus 3.5 foot level.

These two observations, both made in August, appear to be the only recorded cases of spawning noted in these common snails.

LITERATURE CITED

KEEN, A. MYRA & CHARLOTTE L. DOTY

1942. An annotated check list of the gastropods of Cape Arago, Oregon. Oregon State Monogr. 3. Corvallis, Oregon.

Three Dimensional Reconstructions of the Nests of *Helix aspersa*

(Mollusca : Gastropoda : Pulmonata)

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(Plate 30)

THE GROSS ASPECTS of the reproductive process in *Helix aspersa* have been reported at some length. The courtship process was described in detail by TRYON (1882), while other reports have dealt with the copulatory act, oviposition, hatching, and movement out of the nest (BASINGER, 1931; INGRAM, 1946 and 1947; HERZBERG & HERZBERG, 1962). In addition to the above factors which contribute to the total picture of reproductive behavior in this animal there must be added nest building, also a reproductive trait. A search of the literature failed to reveal any description of the actual three-dimensional structure of the nest in the ground in which this animal deposits its eggs. This experiment was designed to determine the nest structure of *Helix aspersa*.

MATERIALS AND METHODS

Twenty pairs of snails were placed separately in quart glass jars with aluminum screening covers. To permit clear observation of oviposition the bottom of each jar

had moist soil about 5 cm in depth. It had earlier been determined that this amount of soil permitted observation of oviposition (HERZBERG & HERZBERG, 1962).

The animals were observed several times daily through the sides or bottom of the jars until they were found actually depositing eggs. When such animals were found they were disturbed by tapping with a pencil on their shells, followed by a slow lifting of the shell away from the soil. As the animal ceased oviposition and withdrew its body from the soil and toward the shell, it was further lifted out of the nest until the body was entirely freed. When conducted with much care, this procedure permitted removal of the animal without any visible distortion of the nest, thus leaving the nest cavity open with eggs visible at its bottom. Into the nest opening a loose mixture of plaster of Paris was poured, and gently vibrated into the nest opening until it overflowed the top, and then left to dry. After drying, the hard plaster mass was withdrawn from the soil and the particles of soil

Explanation of Plate 30

Figures 1 a, b, c: Three views of the plaster of Paris models of the blunt thumb-shaped nest of *Helix aspersa*.

Figures 2 a, b, c: Three views of the plaster of Paris models of the nest of *Helix aspersa* showing the long neck and the rounded bottom.



Figure 1 a



Figure 1 b



Figure 1 c



Figure 2 a



Figure 2 c



Figure 2 b